# The influence of goal congruence and buyer's dependency factor as antecedents of strategic and operational collaborations in buyer-supplier relationships

**ABSTRACT:** *In this study we unbundle the concept of collaboration by positing that there are two types of collaborations in buyer-supplier relationships, namely strategic and operational. Using blended theoretical arguments, we argue that strategic and operational collaborations are driven by the buyers' dependency factor or the extent to which buyers are dependent on suppliers' critical resources and/or goal congruence between buyers and suppliers. We tested our hypotheses based on data drawn from 204 manufacturing firms in Australia. The results show that buyers' dependency factor is positively related to both strategic and operational collaborations, while goal congruence is positively associated with strategic collaboration but not with operational collaborations. The result also shows that strategic collaboration is positively related to operational collaboration.*

**Keywords:** Resource dependency, Goal congruence, Operational collaboration, Strategic collaboration.

## INTRODUCTION

Rapid technological changes, shorter product life-cycle, and globalization have resulted in more dynamic and fiercely competitive markets (Cheung, Myers, & Mentzer, 2010). Thus, firms are now seeking collaborations with their supply chain partners to have access to valuable and complementary skills and resources to achieve competitive advantages (Lado, Boyd, & Hanlon, 1997; Sarkar, Echambadi, Cavusgil, & Aulakh, 2001). Collaborating with supply chain partners, such as suppliers, enables buyer-firms to pool complementary skills (Hagedoorn & Duysters, 2002), and access external knowledge (Powell, Koput, & Smith-Doerr, 1996). Specifically, collaborations between buyer-firms and suppliers can occur at different levels depending on the buyers' needs and suppliers' capabilities. In manufacturing firms, these collaborations could be at an operational and/or a strategic level. The nature of these two levels of collaborations is different as strategic collaborations will typically require a long term and significant investments into the relationship by both parties, thus, may involve a higher degree of risk and commitment than operational collaborations (Nyaga, Whipple, & Lynch, 2010). Consequently, the factors that drive and enable these two levels of collaborations may also be different. However, we have not found studies which have specifically addressed the antecedents of different types of collaborations between firms, particularly in supply chain context.

Many studies have treated collaboration as a single construct, thus, ignoring the fact that different types of collaborations exist (Cao & Zhang, 2011; Fawcett, Wallin, Allred, Fawcett, & Magnan, 2011; Min et al., 2005; Simatupang & Sridharan, 2002) and that different firms may have needs for different types of collaborations (Cousins, 2005; Mentzer, Min, & Zacharia, 2000). This study, therefore, seeks to fill this gap and contribute to the understanding on the dynamic drivers of building different kinds of collaborations between buyer and supplier in supply chain network. In this study, we draw from two theoretical lenses in examining the antecedents of both operational and strategic collaborations in a buyer-supplier relationship. First, we draw from the resource dependency perspective (Pfeffer & Salancik, 2003) which suggest that a buyer's dependency factor on its critical suppliers could motivate firms to seek collaborations either strategic and operational (Ryu, So, & Koo, 2009). Second, we also argue that owing to the complexity and depth of collaborations at strategic level, we believe that it requires certain factors which would open the door for higher level of collaborations than simply the value of suppliers. In this case, we draw from goal congruence theory which suggest that congruence or fit between the supplier's goal and the buyer's goal will motivate collaborations that are more strategic in nature (Samaddar, Nargundkar, & Daley, 2006). Understanding the unique role of these two drivers is important for firms in determining the potential collaborations which they could seek from their relationship with their key suppliers, hence, opening an opportunity to tap into their valuable resources when necessary.

## THEORETICAL DEVELOPMENT AND HYPOTHESIS

### Strategic and operational collaborations

Collaboration is considered as a powerful instrument for achieving effective and efficient supply chains (De Leeuw & Fransoo, 2009). Cousins (2005) describes strategic collaboration, and suggests that it is a "collaboration of a much deeper nature, sharing of technologies, important financial information and exchanging design ideas" (page 408). This definition signifies that strategic collaboration encompasses a number of activities which require both firms to work closely to achieve desired benefits. Strategic collaboration relates to an on-going, long-term inter-firm relationship for achieving strategic goals, which delivers value to customers and profitability to partners (Mentzer et

al., 2000). On the other hand, in an operational relationship between a buyer and a supplier, the supplier provides quality goods and services in time to the buying firm in exchange for payment (Mukhopadhyay & Kekre, 2002). Operational collaborations mainly focus on the management of operational systems, i.e., sharing information on operations planning, forecasting, order management and scheduling (Cousins, 2005). In the supply chain literature, operational collaboration is also viewed as a transactional relationship that is classified by tasks or functions that are not critical to the organization (Whipple, Lynch, & Nyaga, 2010). Transactional relationships often exhibit low level of interdependency and low asset specificity (Bunduchi, 2008).

The success of collaboration is considered as a function of partner characteristics (Madhok, 1995). Specific importance has been given to the organizational fit between partners, with resource dependency and compatibility between partners regarded as the most critical (Cheung et al., 2010; Sarkar et al., 2001). In this study we examine the mechanisms for building strategic and operational collaboration drawing from resource dependency and goal congruence theories.

**Resource dependency as a driver of Operational and Strategic Collaborations**

According to the resource dependence theory (RDT), firms are embedded within a network of exchange relationships, and in order to deal with their uncertain environment, firms are dependent on each other for survival (Pfeffer & Salancik, 2003). RDT suggests that firms depend on their supply chain partners (i.e. key suppliers) when neither firms entirely control all the necessary conditions to achieve the desired output (Handfield & Bechtel, 2002). RDT specifies three factors that affect the degree of dependence including the importance of resource required, the extent to which the interest group has discretion over it, and the extent to which there are limited alternatives (Pfeffer & Salancik, 2003). These factors reflect the extent of the criticality of either partner in a collaborative arrangement.

The buyer's dependency factor will increase as firms increase their dependency on shared resources across organizational boundaries, refocus their core competencies and increase their level of outsourcing in order to be competitive in a fiercely competitive environment (Krause, Handfield, & Scannell, 1998). According to RDT, when specific firms within a supply chain possess critical

resources for tackling environmental uncertainties and dynamics, dependence emerges among the supply chain partners (Zhang & Huo, 2013). When suppliers possess scarce and valuable resources that are beyond the control of buyer-firms, the latter become dependent on the suppliers such that developing long-term oriented relationships becomes a critical method for resource acquisition (Swink, Narasimhan, & Wang, 2007). In this regard, firms could build operational collaborations with their key suppliers with the primary goal being at improving efficiency and effectiveness of the existing operations (Burnes & New, 1997). Such collaborations are mainly focused on ensuring smooth and seamless supply chain by tapping into suppliers' resources and capabilities which would improve operational performance in terms of reducing cost, lead time and to improve competitive parity (Cousins, 2005; Mentzer et al., 2000). Therefore, we offer the following hypothesis:

*Hypothesis 1: Buyer's dependency factor has a positive relationship with operational collaboration with the supplier.*

Beyond the operational level, the buyer could also seek to manage its dependency by engaging in strategic collaboration with the suppliers including supplier development, involving suppliers in new product development, and sharing information and building trust with the suppliers (Kim, Park, Ryoo, & Park, 2010; Petersen, Handfield, & Ragatz, 2005). Such strategic collaborations are necessary to ensure balance (of power) in the dependency relationship as both parties make a high level of commitment (and trust) as well as a significant amount of investments in the relationship (Ganesan, 1994). More importantly, the nature of strategic collaborations open opportunities for firms to tap into deeper resources and capabilities of their collaborative partners; thus, allowing them to access complementary resources which are very difficult for them to develop internally. In sum, dependency on suppliers for critical resources and capabilities will lead to the development of strategic collaborations between the partners to gain access to complementary resources and capabilities, thus, allowing firms to overcome resource based constraints (Hamel, 1991). Accordingly, we offer the following hypothesis:

*Hypothesis 2: Buyer's dependency factor has a positive relationship with strategic collaboration with the supplier.*

**Goal Congruence, Operational and Strategic Collaborations**

The notion of goal congruence is drawn primarily from goal congruence theory (Argyris, 1973; Miner, 2002). According to the goal congruence theory (Argyris, 1973), when there is incongruence between the needs of the individual and the requirements of the organization, the individual experiences negative consequences in terms of frustration, psychological failure, a short-time perspective, and conflict. The theory also suggests that mitigation of these negative consequences enhances the effectiveness of the organization (Miner, 2002). In this context, goal congruence is the extent to which partners have a belief in common about what behaviours, goals and policies are important or unimportant, appropriate or inappropriate and right or wrong (Ballou, Gilbert, & Mukherjee, 2000). As such, goal congruence reflects the extent to which there is compatibility of goals and expectations as well as other approaches to business dealings, ambitions and vision between supply chain partners (Morgan & Hunt, 1994; Parsons, 2002). The degree of congruence between partners influence the extent to which partners are able to realize the synergistic potential of a relationship (Madhok & Tallman, 1998) as well as minimizing conflicts in inter-organizational relationships (Hsu, 2005; Jap & Ganesan, 2000).

Literature on supply chain collaboration (Richey, Adams, & Dalela, 2012; Simatupang & Sridharan, 2002; Soosay, Hyland, & Ferrer, 2008; Stank, Keller, & Daugherty, 2001) suggests that common goals between two firms motivate the development of collaborative relationships which are strategic in nature. Although much has been written about goal compatibility in inter-organizational relationships in the strategy literature (Luo, 2002), not many studies have applied goal congruence theory in the supply chain context, apart from the few mentioned above. This is probably due to the nature of supply chain relationships which tends to be driven mainly by materials (e.g. quality) or costs or other operational needs rather than to achieve more strategic goals. When a buying firm's mission or goals coincide fully with their key suppliers, each firm recognizes that a benefit or advantage to the other firm is also a benefit or advantage to itself (Finley & Srikanth, 2005). This is because shared goals and values leads to continued interactions and an ongoing and self-reinforcing process of participation in sense making as the parties interact and socially construct a shared

understanding (Krause, Handfield, & Tyler, 2007) which inevitably results in strategic collaborations. At the same time, goal congruence creates a climate which reduces the possibility of opportunistic behaviour by the other partner (Lejeune & Yakova, 2005). As a result, goal congruence is important for long-run survival of a relationship because as long as both partners see their goals met by joint action, they are motivated to maintain the relationship. Therefore, the compatibility of their goals enabled the formation of a collaboration that was deep and more strategic in nature – joint product development and at the strategic level. Taken together, we present the following hypothesis:

*Hypothesis 3: Goal congruence between a buyer-firm and its suppliers has a positive relationship with strategic collaborations between the firm and its suppliers.*

Just as goal congruence between supply chain partners can foster strategic collaborations between the partners, it can equally foster operational collaboration between the partners. For example, a firm may have an overriding goal of end customer satisfaction. If the key suppliers have compatible goals, they would understand better the operational requirements for satisfying the end customer. In fact the buyer is more likely to share operational information such as optimal delivery scheduling with suppliers who share similar goals than with suppliers who do not. Indeed, Lee et al. (2010) showed that goal compatibility has a positive association with operational information sharing in which operational information was defined as information related to the operational business activities like short term order, delivery, inventory and production. Accordingly, we offer the following hypothesis:

*Hypothesis 4: Goal congruence between a buyer-firm and its suppliers has a positive relationship with operational collaborations between the firm and its suppliers.*

**Relationship between strategic and operational collaborations**

Strategic and operational collaboration are defined based on the type of activities that are performed between the buyer and its suppliers. Operational collaboration mainly concentrates on those basic and tactical activities that commonly take place between buyers and their suppliers (Lee et al., 2010). Such practices are concerned with sharing internal information on production process, such as forecasting information, scheduling and capacity planning (Cousins, 2005) with suppliers in order to receive any input material in time. On the other hand strategic collaborations (e.g. sharing

technology, new product development and exchanging design ideas) require deeper engagement and significant investment of time and effort from both firms (i.e. buyers and suppliers)

We argue that active involvement in strategic activities with limited and key suppliers necessarily implies that buying firms also share basic operational information with these suppliers. For example, strategic collaborations in terms of joint new product development and working together to enable new market entry will likely lead to operational collaboration in terms of developing and sharing forecast demands and sales information. Therefore, once a firm is engaged in strategic collaborations with its key suppliers, operational collaborations tend be considered as given, occurring naturally as part of the overall collaborative arrangement. Accordingly, we present the following hypothesis:

*Hypothesis 5: Strategic collaborations between a buyer-firm and its suppliers have a positive relationship with operational collaborations between the buyer-firm and its suppliers.*

Figure 1 illustrates the research framework along with hypotheses tested in this study.

[**Insert Figure 1 here**]

## METHODOLOGY

### Sample and methods

The unit of analysis in this study is a manufacturing firm. Empirical data were primarily collected from the Purchasing and Production/Operations managers, General Managers, CEO/MD, Supply Chain managers of Australian manufacturing firms. In total, 2000 survey questionnaires were mailed out, and 204 usable responses were received; hence, the response rate was 10.2%. The data were checked for bias using correlations of responses between early respondents and late respondents based on industry sector, respondent's position in the organization and organizational size. The chi-square tests on both categories did not indicate any significant difference between the two groups of respondents. A brief overview of respondent profiles is given in Table 1.

**[Insert Table 1 here]**

**Measures**

All items were measured on 7-point Likert scales ranging from "strongly disagree" to "strongly agree" and are presented verbatim in Table 2. These measures were developed based on the extant literature. Goal congruence was measured as the extent to which a buyer in a relationship with its key suppliers shares a common goal/vision using four items adapted from Tsai and Ghoshal (1998), Krause *et al.* (2007) and Sarkar, Echambadi, Cavusgil and Aulakh (2001). 'Dependency factor' was measured as the resource dependency of buying firms on their key suppliers using three items adapted from Golicic *et al*.(2003) and Petersen *et al.* (2008). Much research has been conducted on measuring collaboration between buyers and suppliers. We adopted Cousins' (2005) strategic and operational collaboration scales as shown in Table 2.

## DATA ANALYSIS

**Scale validity and reliability**

Confirmatory factor analysis was used to validate simultaneously the measures of all variables used in this study. The results of the confirmatory factor analysis with Cronbach's alpha (**α**), average variance extracted (AVE) and composite reliabilities (CR) are presented in Table 2. All the items loaded significantly (> 0.50 at $p<0.001$) on their respective constructs. The item loadings (with all significance levels) and the overall model fit results suggest acceptable unidimensionality and convergent validity for the measures (Bagozzi, Yi, & Phillips, 1991; Bollen, 1989; Carmines & McIver, 1981). Convergent validity was also assessed using the average variance extracted (AVE) with all values higher than the threshold value of 0.50 (Fornell & Larcker, 1981). However, 'Dependency perspectives' has an AVE value of 0.454 which is marginally acceptable.

**[Insert Table 2 here]**

In order to evaluate the magnitude of common method bias the procedure suggested by Podsakoff *et al.* (2003) was applied. The result showed that the one factor model had a poor model fit to the data compared to the factor models specified in this study; therefore, there is little threat of common method bias and provided support for the validity of the measures.

As an additional check, discriminant validity analysis was conducted using the procedure of Venkatraman (1989) to examine whether goal congruence, dependency factor, strategic collaboration, and operational collaboration represent distinct non-overlapping constructs. With four constructs incorporated in this study, six chi-square tests were conducted. The difference between the chi-square values for all pairs confirms the discriminant validity of construct.

**[Insert Table 3 here]**

**Structural model**

The structural model was tested with maximum likelihood (ML) estimation and is shown in Figure 2. The Normed $\chi^2$ value is 2.250 which is less than the recommended value of 3.0 for a satisfactory fit of a model to data (Bollen, 1989; Carmines & McIver, 1981; Hair, Black, Babin, Anderson, & Tatham, 2006). The other fit indices CFI = 0. 0.941, NFI = 0.900 and RMSEA = 0.078 are deemed acceptable (Hair et al., 2006). The results of the five hypotheses are outlined below.

**[Insert Figure 2 here]**

## DISCUSSION OF THE FINDINGS

While extant literature has treated collaborations between entities in a supply chain in a generic format, in this study, we used two different levels of collaborations in buyer-supplier relationship - operational and strategic collaborations. We argue for the existence of these different types of collaborations and further show with empirical evidence that these collaborative types are driven by different factors. Specifically, we find that the higher the dependency of a buyer-firm on its key suppliers for critical elements (as measured by the dependency factor), the higher the strategic collaborations between the entities. Firms seek suppliers that possess scarce and valuable resources that are beyond the control of buyer-firms, thus, increasing the latter dependency on the suppliers. The greater the buyer's dependency on the supplier for such resources, the more the buyer will seek to engage the suppliers in deep and strategic collaborations which will help the buyer to gain to gain stability in an uncertain and dynamic supply market. We also find that goal congruence with suppliers is positively related to strategic collaborations with suppliers as hypothesized. When buyers and suppliers have similar goals relating to how and when to enter a new market and what products to

develop, they are likely to engage in collaborations that are deep, long term and more strategic in nature. With strategic collaborations, both firms and suppliers are likely to be involved in more upstream activities; for example, joint new product development and sharing of production engineering and technologies. Such collaborations require not only synergy in terms of resources and capabilities but also shared vision and goals which implicitly includes trust. This is because this level of collaborations requires huge investments and long-term commitment. Strategic collaborations may force relevant parties to be locked-in in the relationship whereby they cannot exit the collaboration easily given the amount of resources and investment dedicated to the collaboration. This particular risk (among other factors) ensures that firms are careful in selecting and collaborating with suppliers who have similar business goals.

We find that higher degree of dependency of a buyer-firm on its key suppliers for critical elements leads them to build stronger operational collaborations with the suppliers. Such collaborations occur at the operational level because while the entities may need to invest in this collaboration, they are typically made to satisfy day to day operational demands and typically not expensive or complicated. As a result, the degree of risk is considered relatively low as firms can enter and exit the collaborations easily. On the other hand, our results show that goal congruence is not significantly related to operational collaborations. This suggests that operational collaboration between a buyer-firm and its suppliers may take place regardless of whether the entities have compatible goals or not. We therefore conclude that, different to the case of strategic collaborations, goal congruence is not a necessary condition for operational collaborations in supply chains.

As indicated in our results, when firms are in strategic collaborations with their suppliers in terms of developing new product and sharing important technology, these may also lead to the development of operational collaborations with the suppliers. This is because collaborations at the operational level including the sharing of basic order information, forecasting and sales, operational planning information with suppliers may actually be required to achieve strategic goals. Finally, our finding which establishes the relationship between strategic and operational collaboration contributes to the literature. We show both theoretically and empirically that strategic collaboration leads to operational

collaboration. Firms that collaborate at strategic level with its key suppliers, operational collaboration is the natural consequences considering its activities between them.

From theoretical point of view, this study makes contributions to the supply chain management literature by combining two theoretical perspectives from the strategy (Resource dependency theory) and psychology (goal congruence theory) disciplines in an interdisciplinary manner to examine the drivers of different types of collaborations. Based on the resource dependency theory we established that firms seek to build both strategic and operational collaborations with suppliers who possess the key capabilities that are critical to complement firms' resources in order to maximize performance. Our finding confirms the criticality of suppliers' resources and capabilities to buyer-firms. In order to reduce their dependencies and associated uncertainties in the market environments, firms will seek to develop collaborations (strategic or operational) as needed with suppliers that they find have the required and scarce resources. Our finding that goal congruence between a buyer-firm and its suppliers is an antecedent of strategic collaborations but not operational collaborations is an interesting one that contributes to the literature. It adds to the lexicon of factors required to achieve strategic collaborations. In addition to the importance of the dependency factor as an antecedent of strategic collaborations, our study shows that higher level collaborations (i.e. strategic) require social compatibility in terms of goals and vision. These social aspects of relationships reflect relational quality which includes the mutuality of trust and commitment which are required for strategic collaborations.

From managerial perspective, our study provides valuable insights for managers in choosing their supply chain partners (including suppliers). Specifically, if buyer-firms seek supplier that they can be highly dependent on in terms of providing critical resources and capabilities which the buyer-firms lack, in that case buyers are interested in having deep and long-term collaborations (strategic collaborations) with suppliers relating to planning for and developing new products and technologies and entering new markets. In addition, such buyer-firms must seek suppliers that have compatible and congruent goals with the buyers in terms of strategic intent. For example, the suppliers must not only have resources needed to help with joint design and delivery of new products and technologies on

time, they must also have strategic goals that are compatible with the focal firms' relating to which markets to target, how to source for or develop new technologies, growth objectives and the like. On the other hand, if firms are merely interested in collaborating on delivering day to day operational requirements (operational collaborations), then a focus on suppliers that have the critical resources and capabilities to deliver such requirements might suffice. For example, focus may be on suppliers that firms can share basic forecasting data with to ensure smooth information and material flow for existing products. Indeed, our study shows that firms looking for operational collaborations are not required to find suppliers which have compatible or congruent strategic goals with them.

## LIMITATION AND FUTURE RESEARCH DIRECTION

While substantial evidence has been provided to ensure the reliability and validity of this study, some limitations exist. First, this study does not include performance which reflects the outcomes of strategic and operational collaborations. Future studies can include a measure of the performance outcome to examine the unique effects of each type of the collaborations. Second, the study employed single respondent data from the buyer perspective in a dyadic relationship, and we suggest that future studies must employ true dyadic data as this would provide deeper insights into the symmetrical positions (unilateral / bilateral) of the different types of collaborations. Third, with a cross-sectional data, it is not possible for this study to examine how collaborations emerge between buying firms and suppliers. For future studies, a longitudinal data would add an important element to study the length of the relationship which could also influence the success / failures of strategic collaborations.

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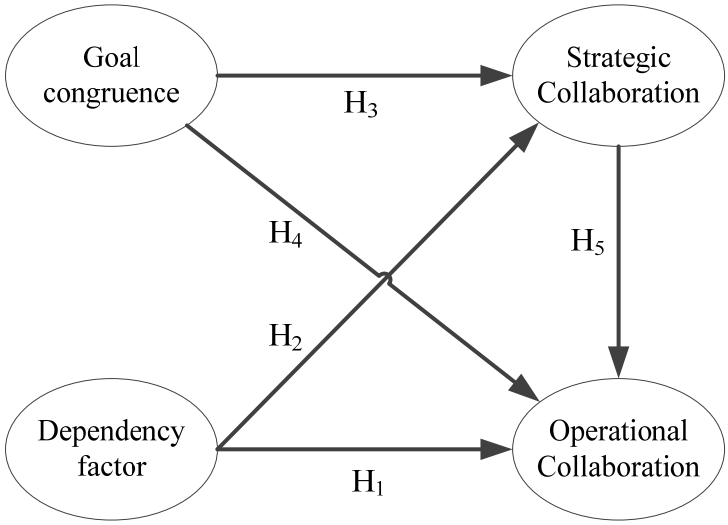


**Figure 1: Research model**

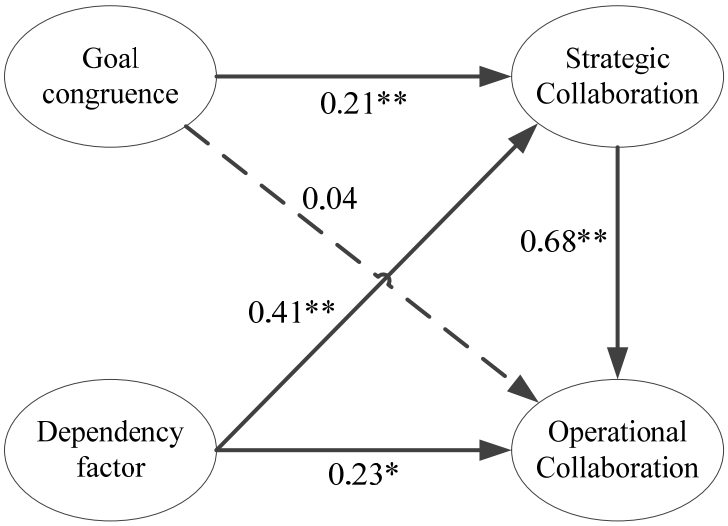


**Figure 2: Structural relationship model (**p<0.01; *p<0.05)**

**Table 1: Profile of respondent**

| **Industry sector** | **Frequency** | **Percentage** |
|---|---|---|
| Food, Beverage and Tobacco Manufacturing | 15 | 7.35% |
| Textile, Clothing, Footwear and Leather Manufacturing | 6 | 2.94% |
| Wood and Paper Product Manufacturing | 6 | 2.94% |
| Printing, Publishing and Recorded Media | 11 | 5.39% |
| Petroleum, Coal, Chemical and Associated Product Manufacturing | 18 | 8.82% |
| Metal Product Manufacturing | 10 | 4.90% |
| Machinery and Equipment Manufacturing | 115 | 56.37% |
| Other Manufacturing | 16 | 7.84% |
| Missing values | 7 | 3.43% |
| **Total** | 204 | 100% |
| **Position of respondents** | **Frequency** | **Percentage** |
| Purchasing manager | 51 | 25.00% |
| Production/Operations Manager | 46 | 22.55% |

| **Industry sector** | **Frequency** | **Percentage** |
|---|---|---|
| General Manager | 42 | 20.59% |
| Managing Director/CEO | 20 | 9.80% |
| Supply Chain Manager | 20 | 9.80% |
| Others | 19 | 9.50% |
| Quality manager | 4 | 1.96% |
| Did not answer | 2 | 0.98% |
| **Total** | **204** | **100%** |
| **Organizational size (numbers of employee)** | **Frequency** | **Percentage** |
| Fewer than 50 | 100 | 49.02% |
| 50 to less than 250 | 72 | 35.29% |
| 250 and above | 32 | 15.69% |
| **Total** | **204** | **100%** |

**Table 2: Scale validity and reliability**

| Scales | Loading paths | *t*-value |
|---|---|---|
| **Goal congruence (α = 0.903, AVE = 70.0%, CR = 0.903)** | | |
| Our organization shares the same ambitions and vision with this key supplier | 0.81 | 14.770 |
| People in both organizations are enthusiastic about pursuing the collective goals of the whole supply chain | 0.88 | - |
| Both organizations agree on what is in the best interest of the relationship | 0.80 | 14.872 |
| This key supplier shares our goal for this business | 0.86 | 13.469 |
| **Dependency factor (α = 0.715, AVE = 45.4%, CR = 0.712)** | | |
| This key supplier provides resources (e.g. information/ knowledge / technology) that are critical for our organization's success | 0.74 | 6.138 |
| It would have been difficult to replace this key supplier | 0.60 | 5.726 |
| This key supplier helps us to avoid demand uncertainty | 0.68 | - |
| **Strategic collaboration (α = 0.891, AVE = 62.8%, CR = 0.893)** | | |
| Sharing basic technology | 0.75 | 12.738 |
| Joint new product development | 0.87 | - |
| Shared production engineering | 0.83 | 14.634 |
| Work together to enable new market entry | 0.84 | 15.099 |
| Develop joint capital expenditure plans | 0.66 | 10.282 |
| **Operational collaboration (α = 0.810, AVE = 63.0%, CR = 0.831)** | | |
| Share operational planning information | 0.89 | - |
| Develop and share forecast demands and sales | 0.87 | 15.325 |
| Link order management system | 0.56 | 8.440 |

Normed $\chi^2 = 2.238$, RMSEA = 0.078, CFI = 0.940, NFI = 0.898

**Table 3: Discriminant validity**

| Test # | Construct | Unconstrained $\chi^2_a$ | Constrained $\chi^2_b$ | Difference $\chi^2_{b-a}$ |
|---|---|---|---|---|
| | ***Goal Congruence with*** | | | |
| 1 | Dependency factor | 71.813 | 138.583 | 66.77 |
| 2 | Strategic collaboration | 117.100 | 565.954 | 448.854 |
| 3 | Operational collaboration | 48.401 | 307.087 | 258.686 |
| | ***Dependency factor with*** | | | |
| 4 | Strategic collaboration | 77.485 | 169.660 | 92.175 |
| 5 | Operational collaboration | 11.097 | 81.877 | 70.78 |
| | ***Strategic collaboration with*** | | | |
| 6 | Operational collaboration | 120.551 | 195.208 | 74.657 |